Claim Amendments:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) The method of claim 11, further comprising a step of restricting annealing to a time period not greater than about 50 hours.

2. (Original) The method of claim 1, wherein annealing is restricted to a time period of not greater than 30 hours.

3. (Original) The method of claim 1, wherein annealing is restricted to a time period of not greater than 20 hours.

4. (Original) The method of claim 1, wherein annealing is restricted to a time period of not greater than 10 hours.

5. (Original) The method of claim 1, wherein annealing is substantially completely eliminated.

Claims 6-10 (Canceled)

11. (Previously Presented) A Czochralski method of forming single crystal spinel wafers, comprising:

providing a batch melt in a crucible; and

pulling a spinel single crystal boule from the melt, at a process aspect ratio of not less than about 0.44, wherein process aspect ratio is defined as a ratio of average boule diameter to crucible inside diameter, wherein the boule has the general formula $aAD{\cdot}bE_2D_3$, wherein A is selected from the group consisting of Mg, Ca, Zn, Mn, Ba, Sr, Cd, Fe, and combinations thereof, E is selected from the group consisting Al, In, Cr, Sc, Lu, Fe, and combinations thereof, and D is selected from the group

consisting O, S, Se, and combinations thereof, wherein a ratio b:a > 1.5:1 such that the spinel is rich in E_2D_3; and

slicing the boule into a plurality of wafers.

12. (Previously Presented) The method of claim 11, wherein the ratio b:a ≥ 2:1.

13. (Previously Presented) The method of claim 11, wherein the ratio b:a ≥ 2.5:1.

14. (Canceled)

15. (Canceled)

16. (Original) The method of claim 11, wherein the process aspect ratio is effective to prevent flipping of the boule from a [111] orientation to a different orientation.

Claims 17-18 (Canceled).

19. (Original) The method of claim 18, wherein A is Mg, D is O, and E is Al, such that the single crystal spinel has the formula $aMgO \cdot bAl_2O_3$.

20. (Original) The method of claim 11, wherein the single crystal is grown by contacting a seed crystal with the melt.

21. (Original) The method of claim 20, wherein the seed crystal and the melt are rotated with respect to each other during growing.

22. (Canceled)

23. (Previously Presented) The method of claim 11, further comprising cooling the boule at a cooling rate not less than about 50°C/hour prior to slicing.

24. (Original) The method of claim 23, wherein cooling is carried out at a rate not less than 100°C/hour.

25. (Original) The method of claim 23, wherein cooling is carried out at a rate not less than 200°C/hour.

26. (Original) The method of claim 23, wherein cooling is carried out at a rate not less than 300°C/hour.

Claims 27-30 (Canceled)

31. (Previously Presented) A Czochralski method of forming single crystal spinel wafers, comprising:

providing a batch melt in a crucible;

pulling a spinel single crystal boule from the melt, at a process aspect ratio of not less than about 0.44, wherein process aspect ratio is defined as a ratio of average boule diameter to crucible inside diameter, wherein the boule has the general formula $aAD{\cdot}bE_2D_3$, wherein A is selected from the group consisting of Mg, Ca, Zn, Mn, Ba, Sr, Cd, Fe, and combinations thereof, E is selected from the group consisting Al, In, Cr, Sc, Lu, Fe, and combinations thereof, and D is selected from the group consisting O, S, Se, and combinations thereof, wherein a ratio b:a > 1.5:1 such that the spinel is rich in E_2D_3;

cooling the boule at a cooling rate not less than about 50°C/hour;

restricting annealing to a time period not greater than about 50 hours; and

slicing the boule into a plurality of wafers.

32. (Previously Presented) A Czochralski method of forming single crystal spinel wafers, comprising:

providing a batch melt in a crucible; and

pulling a spinel single crystal boule from the melt, at a process aspect ratio of not less than 0.52, wherein process aspect ratio is defined as a ratio of average boule diameter to crucible inside diameter, wherein the boule has the general formula $aAD{\cdot}bE_2D_3$, wherein A is selected from the group consisting of Mg, Ca, Zn, Mn, Ba, Sr, Cd, Fe, and combinations thereof, E is selected from the group consisting

Al, In, Cr, Sc, Lu, Fe, and combinations thereof, and D is selected from the group consisting O, S, Se, and combinations thereof, wherein a ratio b:a > 1.5:1 such that the spinel is rich in E_2D_3; and

slicing the boule into a plurality of wafers, wherein the wafers have a diameter not less than 2 inches.

33. (Currently Amended) The method of claim [[32]] 11, wherein the wafers have a diameter not less than 2 inches.

34. (Previously Presented) The method of claim 32, wherein the process aspect ratio is not less than 0.55.

35. (New) The method of claim 11, wherein the aspect ratio is in a range of 0.44 to 0.59.

36. (New) The method of claim 11, wherein the aspect ratio is not less than 0.50.

37. (New) The method of claim 35, wherein the aspect ratio is in a range of 0.50 and 0.59.

38. (New) The method of claim 31, wherein the aspect ratio is not less than 0.50.

39. (New) The method of claim 31, wherein the aspect ratio is in a range of 0.50 to 0.59.

40. (New) The method of claim 32, wherein the aspect ratio is in a range of 0.52 to 0.59.